

## REMARKS

Applicants thank the Examiner for the Final Office Action of December 17, 2008. This Amendment is in full response thereto. Thus, Applicants respectfully request continued examination and allowance of the application.

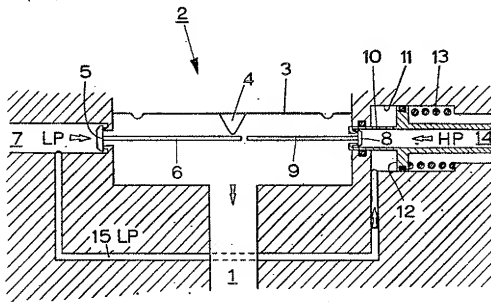
The listing of claims is provided for the Examiner's convenience. No amendments to the claims have been made in this response. Claims 11-23 are pending in this application.

### First Claim Rejection Under 35 U.S.C. § 103:

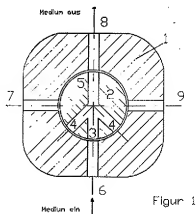
Claims 11, 12, 13, 15-19 and 20-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maskell (GB 1,022,574) in view of Muller (DE 19740392). Applicants respectfully disagree because (1) the combination of Maskell and Muller changes the principle of operation of Maskell; (2) one of ordinary skill in the art would not be motivated to combine Maskell and Muller; (3) the combination of Maskell and Muller renders Maskell unsuitable for its intended purpose; (4) the combination of Maskell and Muller would not be successful; and (5) the combination fails to teach all of the limitations of claims 11, 15, 18, 19, and 22.

The Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time of invention to substitute a valve as taught by Muller in the device of Maskell in order to have a manual valve which would not be subjected to an automatic spring device which may be prone to failure. Applicants respectfully disagree and submit that the Examiner's proposed combination changes the principle of operation of Maskell in contradiction of MPEP 2143.01 VI. Maskell's invention requires automation, and thus the spring that is allegedly prone to failure, to switch from one source of breathable gas to another source when the pressure of the first breathable gas source becomes too low, thereby protecting the diver or personnel working in fuel tanks from a lack of breathable gas. As detailed in Maskell's only

figure, copied for convenience on the next page, Maskell's spring 13 remains compressed by the piston 12 when the breathable gas supply 7, as communicated to the piston 12 by passageway 15, is provided at 80 p.s.i. or higher. When the breathable gas supply 7 falls below 80 p.s.i., the spring 13 causes the high pressure tilt valve stem 9 to advance into its operative position in contact with the ramp 4. See Maskell p. 2, lines 49-71.



The Examiner's proposed combination substitutes Muller's valve, copied below, into Maskell's automated device, thereby removing at least the automated spring 13 taught by Maskell and possibly the differential pressure responsive diaphragm 3 and ramp 4. Removal of the spring 13 requires a diver or person working in a tank, and otherwise preoccupied with their surroundings, to recognize when their breathable gas pressure is not sufficient and to manually switch to the secondary supply. As a result, at least because the combination of Maskell and Muller changes Maskell's principle of operation from an automated process to a manual process, the Examiner has failed to provide a prima facie case of obviousness.



Applicants further submit that, at least as a result of the change in the principle of operation discussed above, one of ordinary skill in the art would not be motivated to combine Maskell and Muller because one of ordinary skill in the art would recognize that a lack of breathable gas, and therefore oxygen, may result from the proposed manual process causing the user confusion at a minimum. If the manual valve is located on the self-contained breathing apparatus (i.e., on the person's back), it may be difficult to reach in sufficient time to maintain a flow of breathable gas. As a result, by the time Maskell's diver or person working in a fuel tank realizes that he or she is not receiving sufficient breathable gas and needs to manually change Muller's valve to the secondary breathable gas source, he or she may be too confused to properly operate the manual valve or worse, dead. The fatalities resulting from Maskell's failed spring would be less than those resulting from the Examiner's proposed combination. As a result, at least because one of ordinary skill in the art would not combine Maskell and Muller due to recognition of the serious detriments that could result from such a combination, the Examiner has failed to provide a prima facie case of obviousness.

Applicants further submit that the combination of Maskell and Muller renders Maskell unsuitable for its intended purpose to provide on-demand breathable gas. See MPEP § 2143.01 V. Applicants respectfully request the Examiner to indicate how Muller's valve could be used in Maskell's device and still provide on-demand

breathable gas. The Examiner only addresses how Maskell's outlet 1, oxygen supply 7, and secondary oxygen supply 14 communicate through three of bores 6-9 in Muller's valve. The Examiner does not address how Muller's valve would interact with Maskell's differential pressure responsive diaphragm 3 and ramp 4 to provide on-demand breathable gas. It appears that the Examiner's proposed combination would result in a constant flow of breathable gas, which, in diving, may present the issue of too much oxygen (hyperoxia), another potentially fatal complication. As a result, at least because the combination of Maskell and Muller renders Maskell unsuitable for its intended purpose, the Examiner has failed to provide a prima facie case of obviousness.

Applicants further submit that, for at least the reasons stated above, one of ordinary skill in the art would have no expectation of success from the combination of Maskell and Muller. See MPEP § 2143.02. The Examiner has proposed substituting Muller's valve in the device of Maskell in order to have a manual valve which would not be subjected to an automatic spring device which may be prone to failure. As stated previously, one of ordinary skill in the art would recognize that this substitution would change Maskell's automatic process to a manual process, which may result in fatalities due to lack of oxygen. Additionally, Applicants submit that one of ordinary skill in the art would recognize this substitution to require removal of the diaphragm 3 and ramp 4 that Maskell utilizes to provide on-demand breathable gas. As discussed previously, placing Muller's valve in Maskell's device would, at best, result in a constant flow of breathable gas, which may result in fatalities due to hyperoxia. One of ordinary skill in the art would recognize that substituting Muller's valve into Maskell's device would create these two extreme issues of lack of oxygen or too much oxygen and would have no expectation of success from the combination. As a result, at least because there is no reasonable expectation of success from the combination of Maskell and Muller, the Examiner has failed to provide a prima facie case of obviousness.

Finally, Applicants submit that the combination of Maskell and Muller fails to teach all of the claim limitations of Independent claims 11 and 19. Applicants have claimed an onboard system for delivering respiratory gas to a mask connected to a user fluid circuit in claim 11 and an apparatus for delivering respiratory gas to a passenger, said apparatus comprising a mask connected to a user circuit and a system for delivering respiratory gas to a passenger in claim 19. Both claims 11 and 19 include a valve body comprising at least first, second, third, and fourth internal zones and at least four fluid passages, wherein each said fluid passage connects a corresponding one of said zones to an external fluid circuit, one of the external fluid circuits being the user fluid circuit. In claim 19, the four zones and four fluid passages are located **within** the fluid distribution and control valve. The Examiner utilizes Maskell to provide three of the four fluid passages and Muller to provide the four internal zones. The Examiner has not provided the fourth fluid passage. When Applicants pointed this out in its last response and stated that the proposed combination would be unsafe and/or inoperable, the Examiner stated "[t]he fact that Maskell has no function for a fourth zone does not render the system unsafe or inoperable, as this extra zone could be used to enable another user with an alternative oxygen source, should an emergency arise, similar to a buddy breathing system." Applicants respectfully disagree. The Examiner has not provided a reference to show exactly what the buddy breathing system is and how it would operate in the proposed Maskell/Muller combination. "Rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." See MPEP § 2142 citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) and *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, 82 USPQ2d 1385, 1396 (2007)(quoting Federal Circuit statement of *In re Kahn* with approval).

The Examiner has utilized improper motivation to combine two references to attempt to meet the limitations of Applicants' claims. Additionally, when Applicants pointed out that the Examiner's combination would not yield predictable results as required by MPEP §§ 2141 and 2143A, B and would have no expectation of success as required by MPEP § 2143E, the Examiner improperly maintained the rejection and made it final. As discussed previously, Applicants respectfully request the Examiner to provide additional information as to how the four zone valve of Muller would operate in the three passage device of Maskell and thereby render claims 11 and 19 obvious, keeping in mind that the combination must yield a predictable result (MPEP § 2143A and B) and have an expectation of success (MPEP § 2143E).

With respect to claim 15, the Examiner alleges that Muller teaches a slide (element or rotatable ball 2) for sliding partition walls. Applicants respectfully disagree. Per Muller's own disclosure, the Examiner's alleged "slide" is actually a rotatable ball. Therefore, Muller does not teach "a slide sliding on partition walls," as Applicants have expressly claimed, but instead teaches a rotatable ball having partitions therein.

With respect to claims 18 and 22, the Examiner alleges that Muller teaches a pair of intermediate chambers (4) in permanent communication with the first zone. Applicants respectfully disagree. Muller's intermediate chambers (4) are only in communication with the first zone when the first zone (the Examiner's bore 7) is in communication with zones 2 (bore 6) and 4 (bore 8). When the first zone (bore 7) is in communication with the third zone (bore 9), the intermediate chambers (4) are not providing any communication, which instead is provided through chamber 3.

Therefore, because (1) the combination of Maskell and Muller changes the principle of operation of Maskell; (2) one of ordinary skill in the art would not be motivated to combine Maskell and Muller; (3) the combination of Maskell and Muller

renders Maskell unsuitable for its intended purpose; (4) the combination of Maskell and Muller would not be successful; and (5) the combination fails to teach all of the limitations of claims 11, 15, 18, 19, and 22, the Examiner has failed to establish a prima facie case of obviousness with respect to claims 11-13 and 15-23. Accordingly, Applicants respectfully request that claims 11-13 and 15-23 be passed to allowance.

**Second Claim Rejection Under 35 U.S.C. § 103:**

Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Maskell in view of Muller and further in view of Baker (USPN 4,501,297).

Claim 14 is dependent upon claim 11, which has been shown allowable above. Therefore, since claim 14 introduces additional subject matter that, when considered in the context of the recitations of claim 11, constitute patentable subject matter, Applicants submit that the recitations of claim 14 are not rendered obvious by the combination of Maskell, Muller, and Baker and respectfully request that claim 14 be passed to allowance.

## CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the examiner believe a telephone call would expedite the prosecution of the application, he/she is invited to call the undersigned attorney at the number listed below.

It is not believed that any fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

Date: **February 10, 2009**

/Patricia E. McQueeney/

Patricia E. McQueeney  
Registration No. 49,083

Air Liquide  
2700 Post Oak Blvd., 18<sup>th</sup> Floor  
Houston, Texas 77056  
Phone: 302-286-5525  
Fax: 713-624-8950